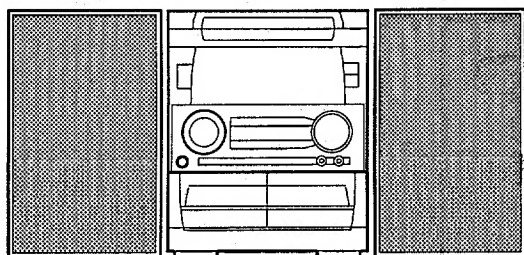


aiwa



NSX-S909



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 (PR4NM,YPR4N)
- BASIC CD MECHANISM : 4ZG-1 (Z4SHMD,Z4DSHNM,Z4DSHNC)
- TYPE : HE,HR,
EZ,K

REVISION PUBLISHING

| SYSTEM | CD CASSEIVER | SPEAKER | REMOTE CONTROLLER |
|----------|-----------------|-----------|----------------------|
| NSX-S909 | CX-NS909 | SX-WNS909 | RC-7AS08 |

• If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-983-249-3OT.

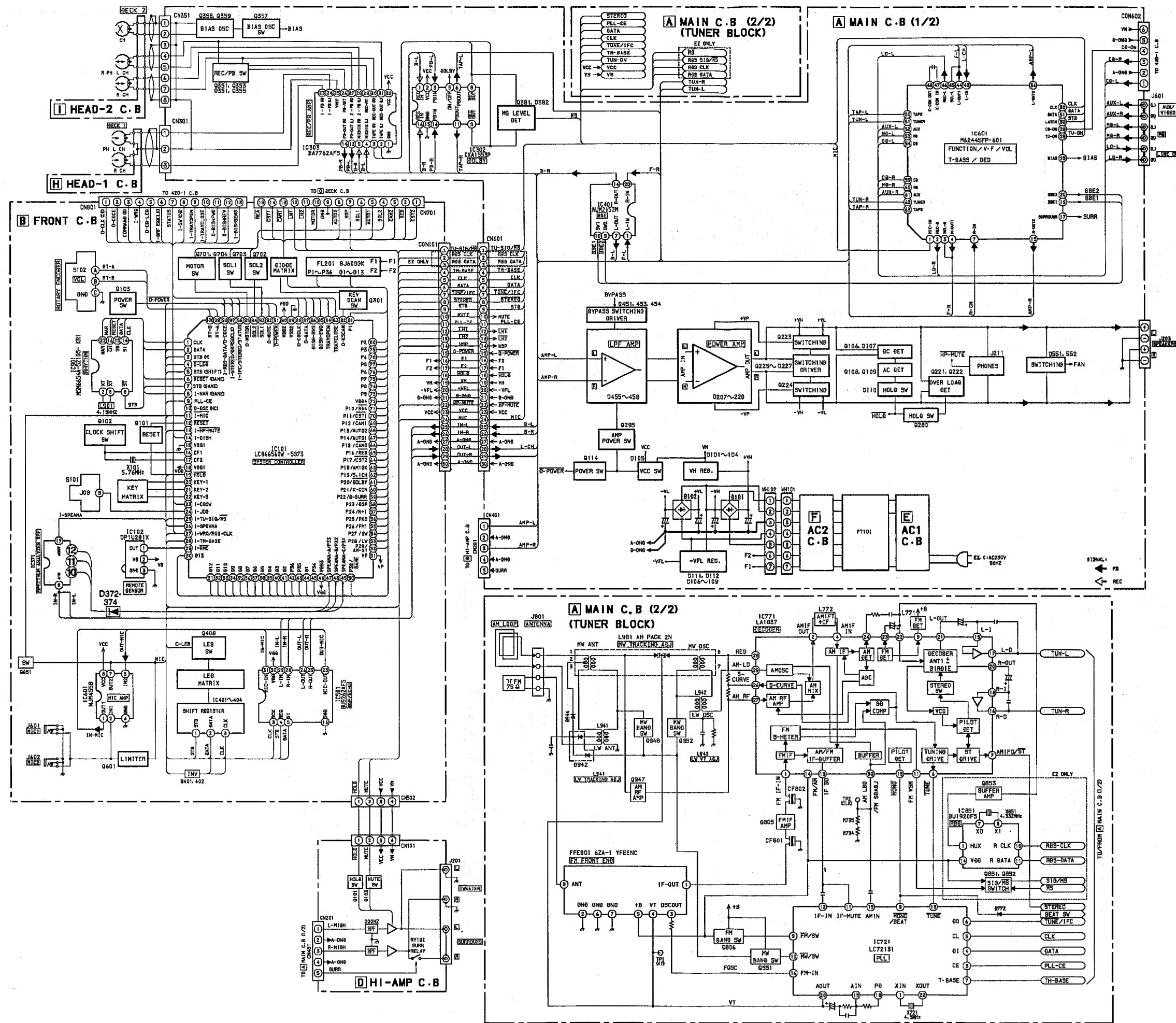
• This Service Manual is the "Revision Publishing" and replaces "Simple Manual", S/M Code No. 09-985-268-7FE (HE), S/M Code No. 09-985-276-2FE (HR,EZ,K).

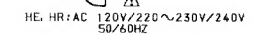
This is a detailed electronic schematic diagram of a car stereo system, likely a Pioneer model. The diagram is organized into several functional blocks, each with its own set of components and interconnections.

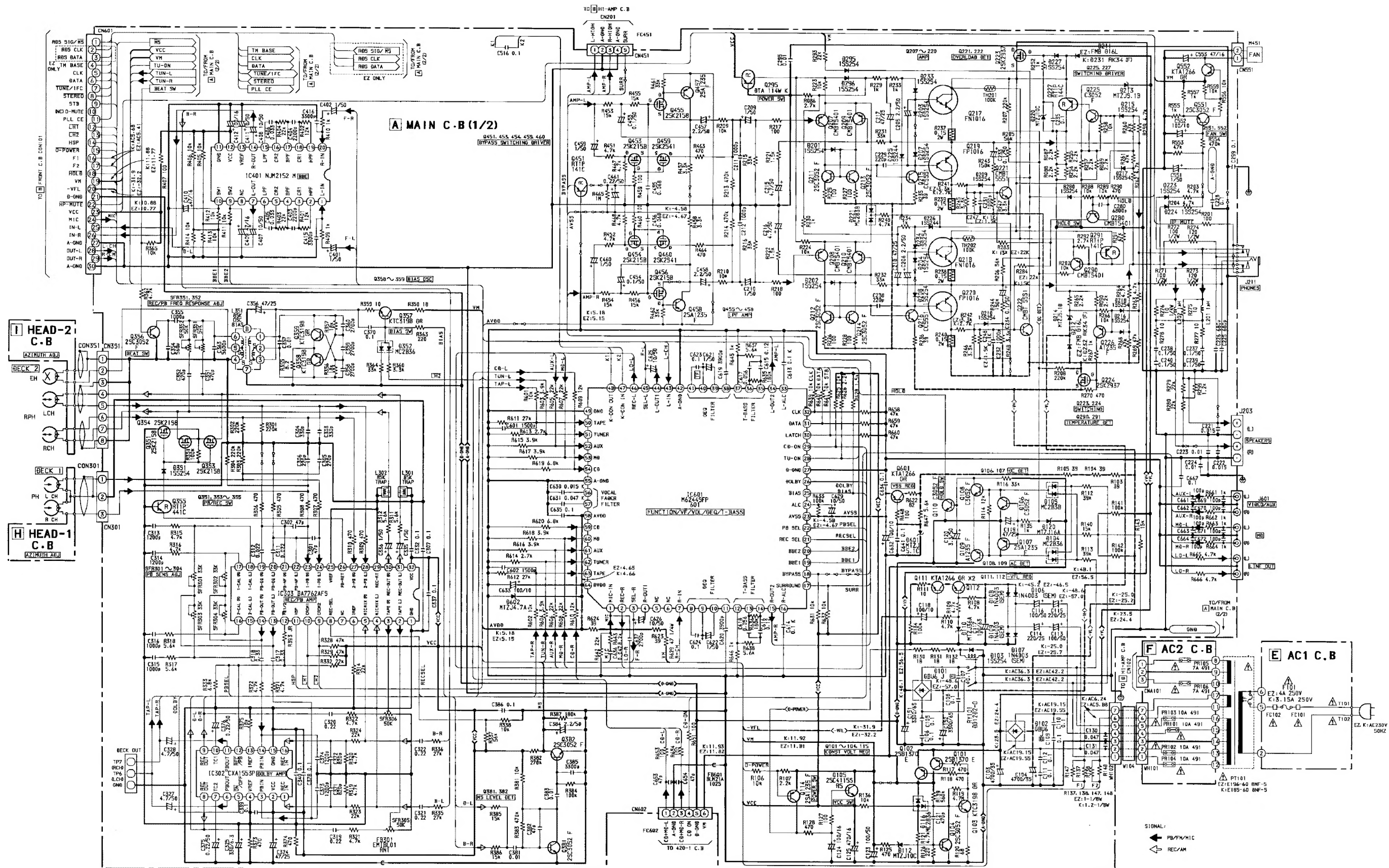
- HEAD-1 C.B. (H) and HEAD-2 C.B. (I):** These blocks represent the cassette deck and its associated control circuitry, including the motor, solenoid, and various sensors.
- FRONT C.B. (B):** This block contains the main control logic, including the microprocessor (IC101), various control ICs (IC102, IC103, IC104, IC105, IC106, IC107, IC108, IC109, IC110, IC111, IC112), and the main amplifier (IC100).
- MAIN C.B. (2/2) (TUNER BLOCK):** This block contains the tuner circuitry, including the tuner IC (IC101), various control ICs (IC102, IC103, IC104, IC105, IC106, IC107, IC108, IC109, IC110, IC111, IC112), and the main amplifier (IC100).
- MAIN C.B. (1/2):** This block contains the main amplifier and control circuitry, including the main amplifier IC (IC100), various control ICs (IC101, IC102, IC103, IC104, IC105, IC106, IC107, IC108, IC109, IC110, IC111, IC112), and the main amplifier (IC100).
- HI-AMP C.B. (D):** This block contains the high-power amplifier and control circuitry, including the high-power amplifier IC (IC100), various control ICs (IC101, IC102, IC103, IC104, IC105, IC106, IC107, IC108, IC109, IC110, IC111, IC112), and the high-power amplifier (IC100).

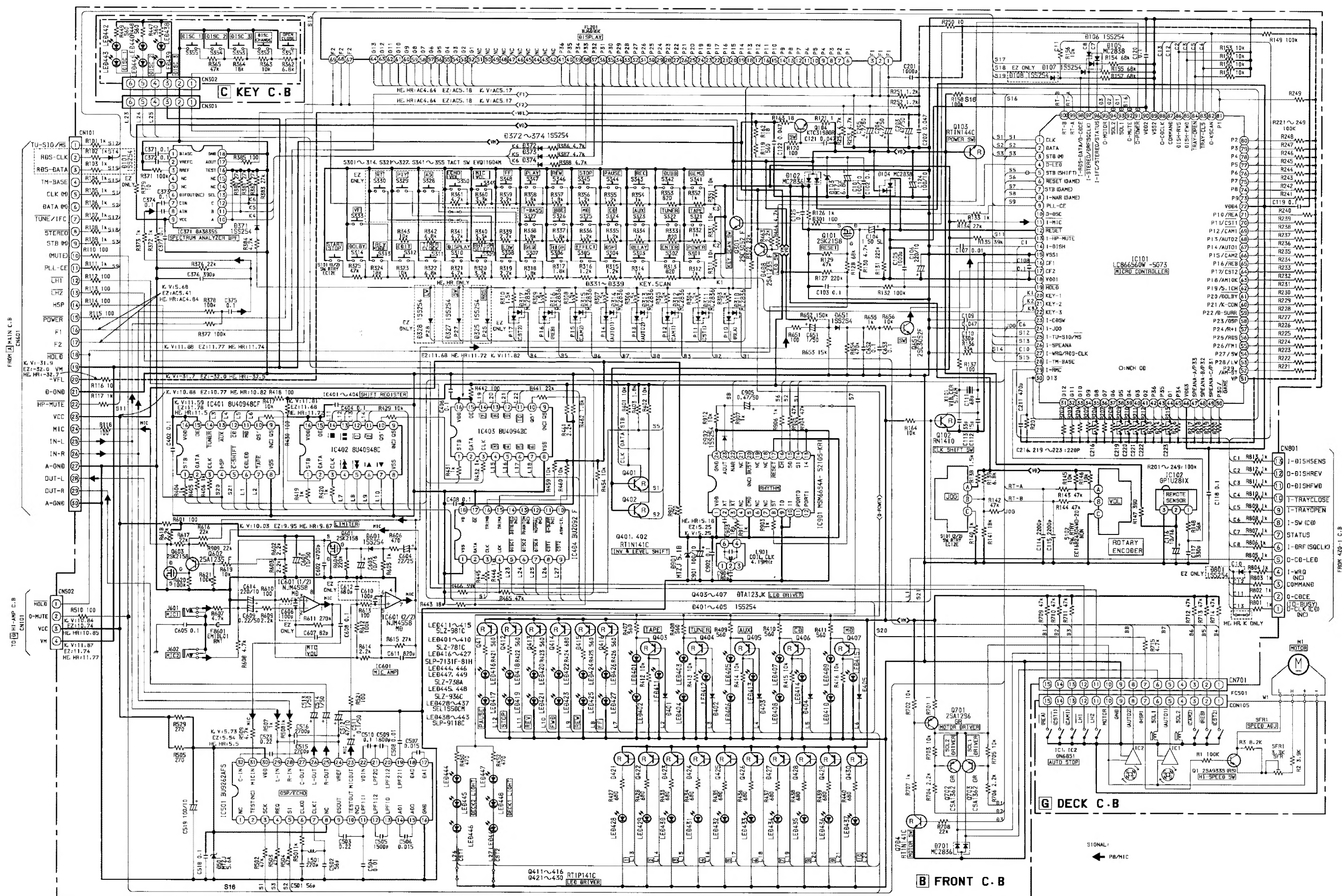
The diagram shows a complex network of electronic components, including resistors, capacitors, diodes, and integrated circuits, all interconnected to form a functional car stereo system. The components are labeled with their respective part numbers and pin numbers, and the connections are shown as a series of lines and dots.

BLOCK DIAGRAM - 2 (EZ, K : MAIN / FRONT)

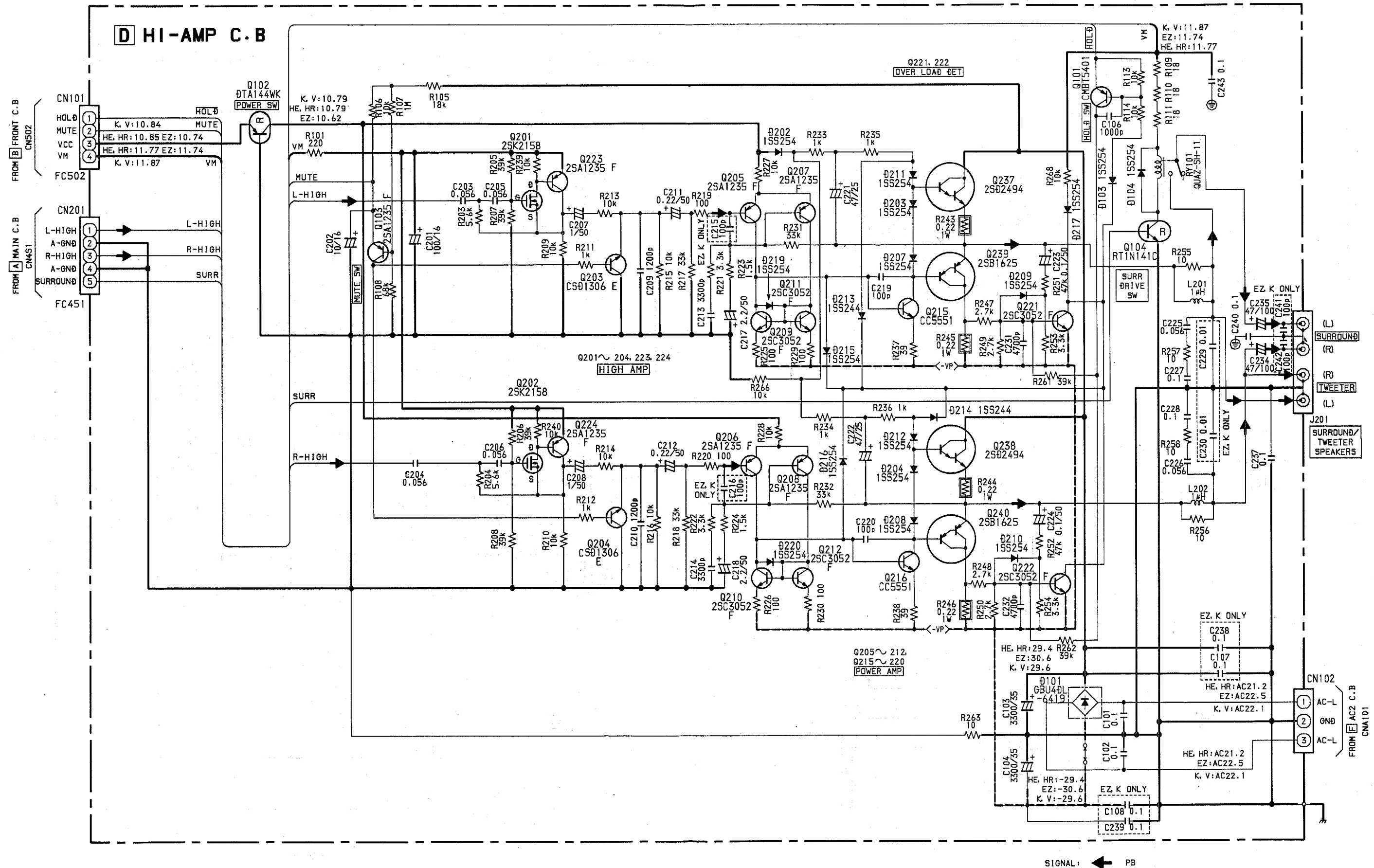




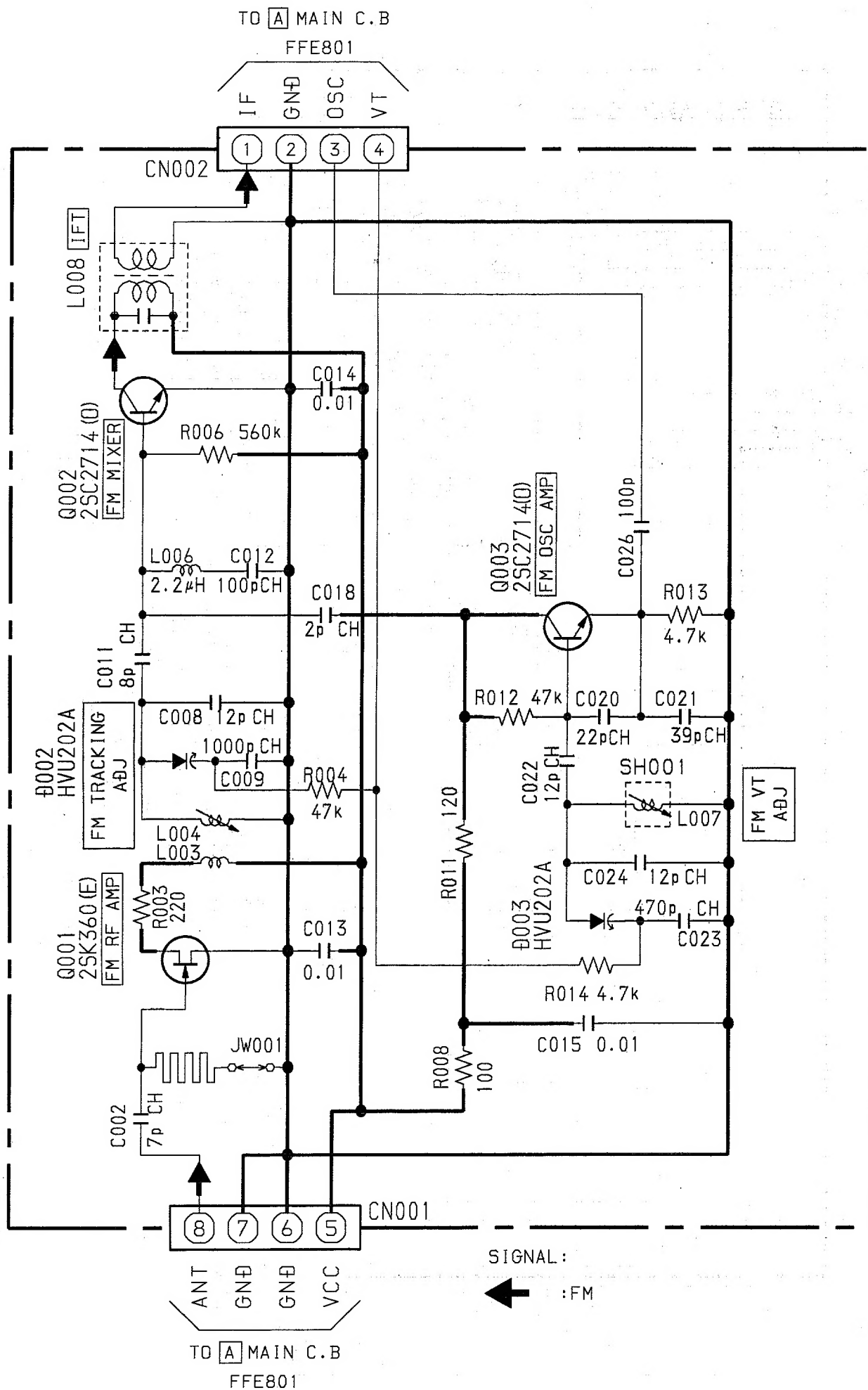


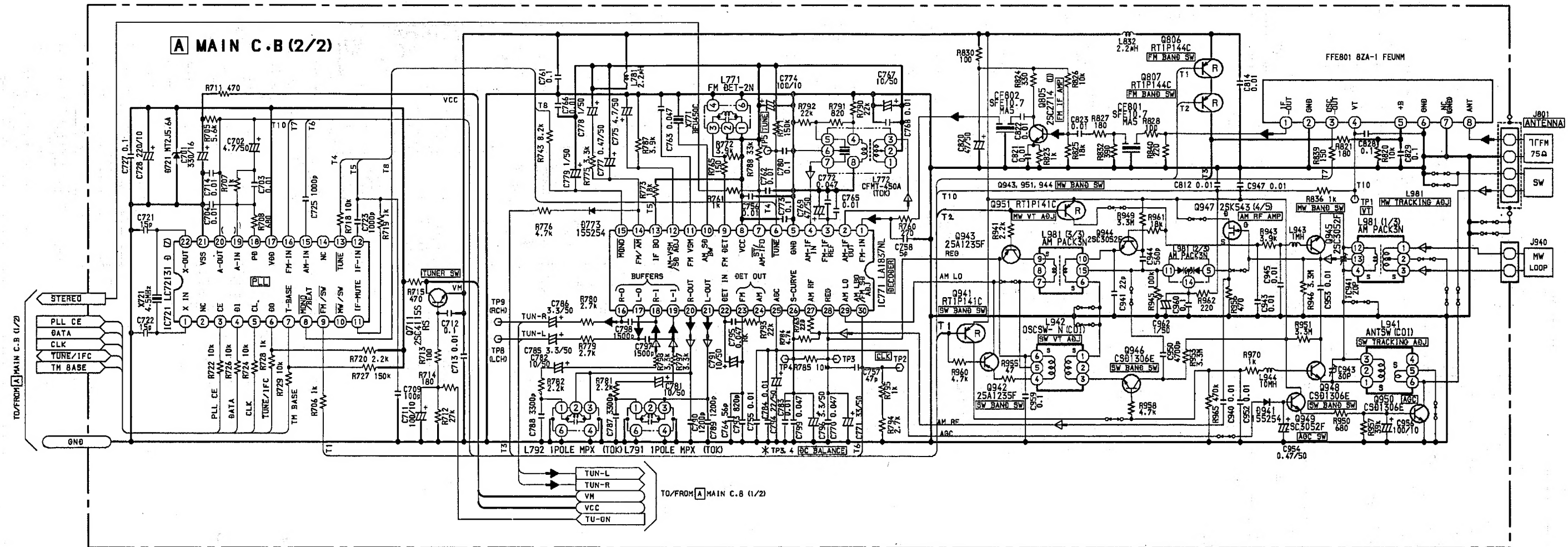


SCHEMATIC DIAGRAM - 4 (HI -AMP)



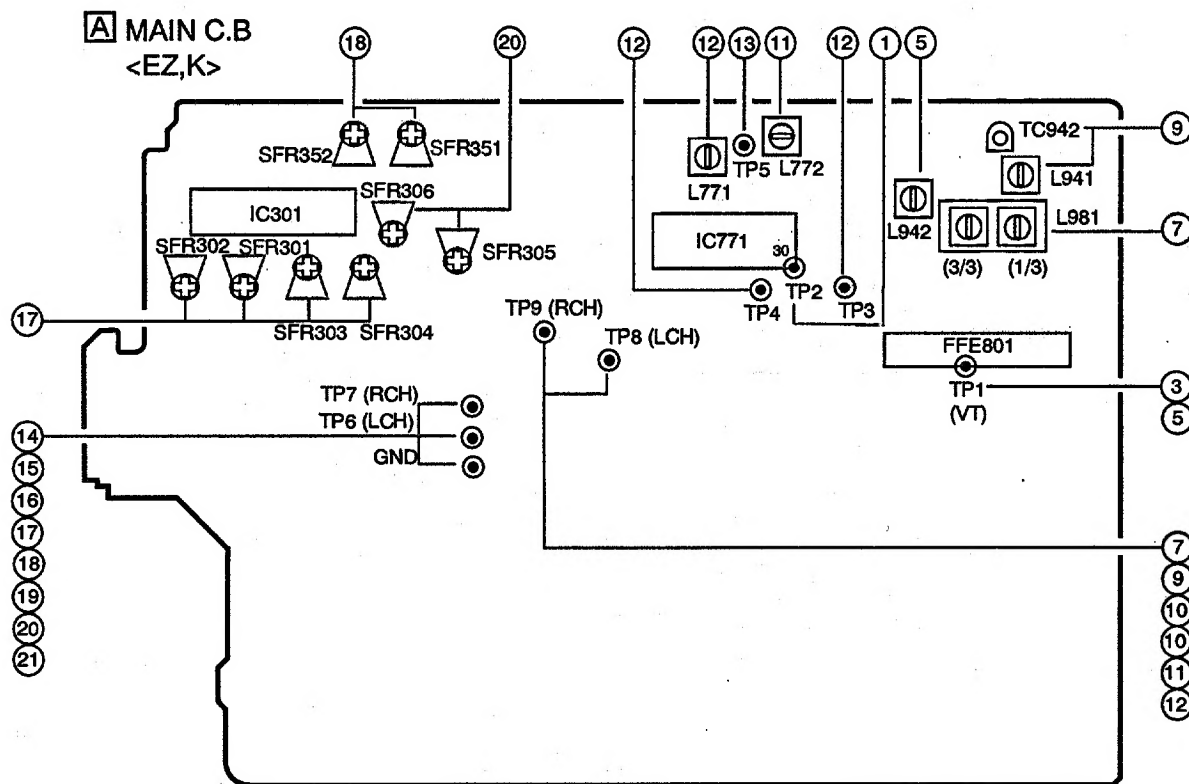
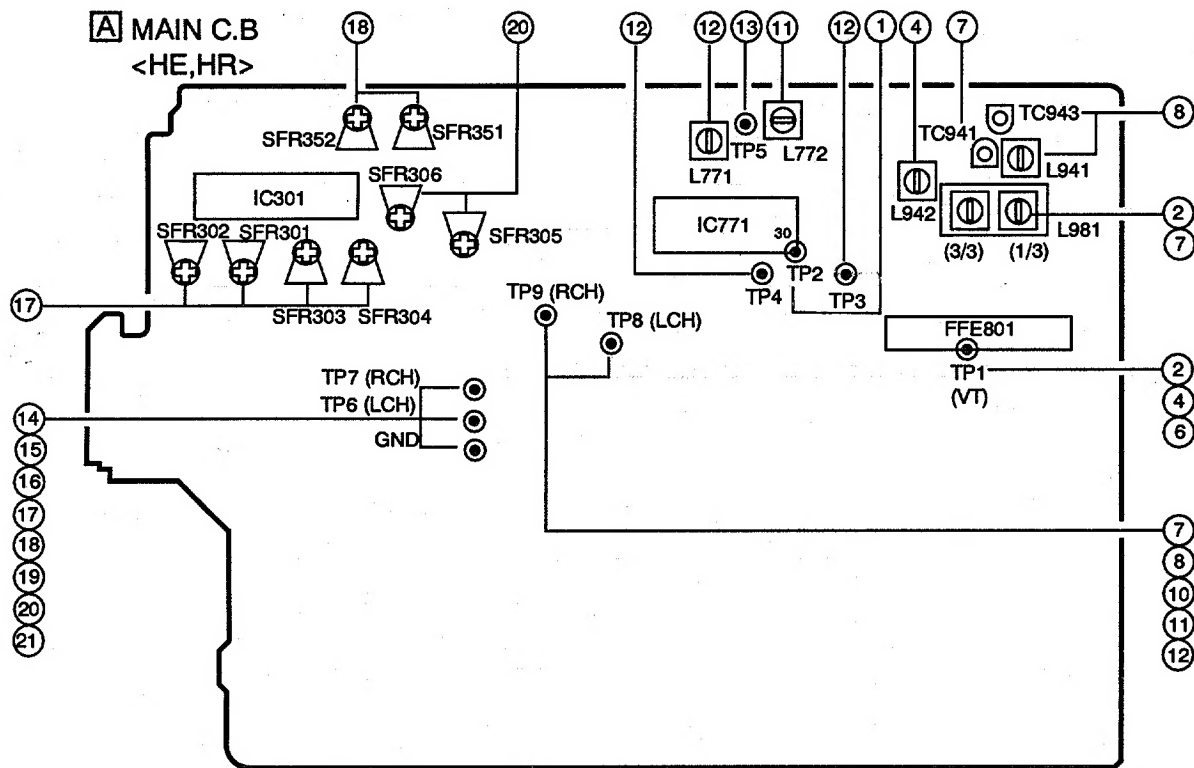
SCHEMATIC DIAGRAM - 5 (HE, HR : TUNER FRONT END)



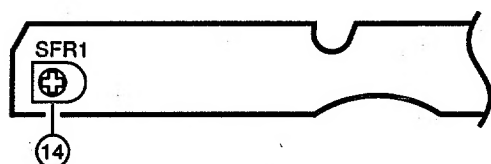




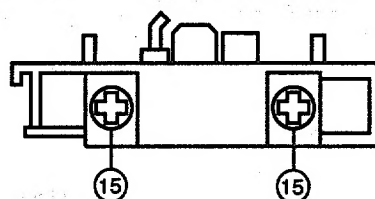
ADJUSTMENT <TUNER / DECK>



G DECK C.B



DECK-1 P, DECK-2 R/P/E HEAD



< TUNER SECTION >

1. Clock Frequency Check
Settings : • Test point : TP2
Method : Set to AM 1602kHz and check that the test point is 2052kHz \pm 45Hz.
2. MW VT Adjustment <HE,HR>
Settings : • Test point : TP1 (VT)
• Adjustment location : L981 (3/3)
Method : Set to MW 1710kHz and adjust L981 (3/3) so that the test point becomes 8.5V \pm 0.05V. Then check that the test point is more than 0.3V (530kHz).
3. MW VT Check <EZ,K>
Settings : • Test point : TP1 (VT)
Method : Set to MW 1602kHz and check that the test point is less than 8.0V and more than 0.6V (531kHz).
4. SW VT Adjustment <HE,HR>
Settings : • Test point : TP1 (VT)
• Adjustment location : L942
Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 7.0V \pm 0.05V. Then check that the test point is more than 0.3V (5.9MHz).
5. LW VT Adjustment <EZ,K>
Settings : • Test point : TP1 (VT)
• Adjustment location : L942
Method : Set to LW 144kHz and adjust L942 so that the test point is 1.3V \pm 0.05V. Then check that the test point is less than 8.0V (290kHz).
6. FM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).
- 7a. MW Tracking Adjustment <HE,HR>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L981 (1/3) 603kHz
TC941 1404kHz
Method : Set up TC941 to center before adjustment, the level at 603kHz is adjust to maximum by L981 (1/3). Then the level at 1404kHz is adjust to maximum by TC941.
- 7b. MW Tracking Adjustment <EZ,K>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L981(1/3) 999kHz
Method : Set to AM 999kHz and adjust L981(1/3) to MAX.
8. SW Tracking Adjustment <HE,HR>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L941 5.9MHz
TC943 17.9MHz
Method : Set up TC943 to center before adjustment. The level at 5.9MHz is adjust to maximum by L941. Then the level at 17.9MHz is adjust to maximum by TC943.

9. LW Tracking Adjustment <EZ,K>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L941 144kHz
TC942 290kHz
Method : Set up TC942 to center before adjustment. The level at 144kHz is adjust to maximum by L941. Then the level at 290kHz is adjust to maximum by TC942.
10. FM Tracking Check
Settings : • Test point : TP8(Lch), TP9(Rch)
Method : Set to FM 98.0MHz and check that the test point is less than 9dB (HE,HR), less than 10dB (EZ,K).
11. AM(MW) IF Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L772 450kHz
12. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3, TP4 (DC Balance)
: TP8(Lch), TP9(Rch) (Distortion)
• Adjustment location : L771
• Input level : 54dB
Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V \pm 0.04V. Next, check that the distortion is less than 1.3%.
13. Auto Stop Level Check

MW
• Input level : 52dB
• Test point : TP5
Method : Check auto stop at MW 999kHz and the level is 52 \pm 10/-15dB.

FM
• Input level : 25dB
• Test point : TP5
Method : Check auto stop at FM 98.0MHz and the level is 25 dB \pm 10 dB.

< DECK SECTION >

14. Tape Speed Adjustment
Settings : • Test tape : TTA-100
• Test point : TP6(Lch), TP7(Rch)
• Adjustment location : SFR1
Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz \pm 5Hz.
15. Head Azimuth Adjustment
Settings : • Test tape : TTA-300
• Test point : TP6(Lch), TP7(Rch)
• Adjustment location : Head azimuth adjustment screw
Method : Play back (FWD) the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.
16. PB Frequency Response Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-300
• Test point : TP6(Lch), TP7(Rch)
Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

17. PB Sensitivity Adjustment (DECK 1, DECK 2)

Settings : • Test tape : TTA-200

- Test point : TP6(Lch), TP7(Rch)
- Adjustment location : SFR301 (DECK 1, Lch)
SFR302 (DECK 1, Rch)
SFR303 (DECK 2, Lch)
SFR304 (DECK 2, Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes $245\text{mV} \pm 10\text{mV}$.

18. REC/PB Frequency Response Adjustment

Settings : • Test tape : TTA-602

- Test point : TP6(Lch), TP7(Rch)
- Input signal : 1kHz / 10kHz (LINE IN)
- Adjustment location : SFR351 (Lch)
SFR352 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17 mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes $0\text{dB} \pm 0.5\text{dB}$ with respect to that of the 1kHz signal.

19. REC/PB Frequency Response Check

Settings : • Test tape : TTA-615

- Test point : TP6(Lch), TP7(Rch)
- Input signal : 1kHz (LINE IN)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17 mV. Record and play back the 1kHz and 10 kHz signals and check that the output is $0 \pm 2\text{dB}$ with respect to that of the 1kHz signal.

20. REC/PB Sensitivity Adjustment

Settings : • Test tape : TTA-602

- Test point : TP6(Lch), TP7(Rch)
- Input signal : 1kHz (LINE IN)
- Adjustment location : SFR305 (Lch)
SFR306 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 170mV. Record and play back the 1kHz signals and adjust SFRs so that the output becomes $0\text{dB} \pm 0.5\text{dB}$ with respect to that of the 1kHz signal.

21. REC/PB Sensitivity Check

Settings : • Test tape : TTA-615

- Test point : TP6(Lch), TP7(Rch)
- Input signal : 1kHz (LINE IN)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP6, TP7 becomes 170mV. Record and play back the 1kHz signals and check that the output is $0 \pm 1.0\text{dB}$.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : Less than 10 / 9 / 9dB (HE,HR)
[at 87.5 / 98.0 / 108.0MHz (HE,HR)]
(THD 3%) Less than 11 / 10 / 10dBdB (EZ,K)
[at 87.5 / 98.0 / 108.0MHz (EZ,K)]

S/N 50dB Quieting sensitivity :

Less than 35dB (HE,HR)
[at 98.0MHz (HE,HR)]
Less than 38dB (EZ,K)
[at 98.0MHz (EZ,K)]

Signal to noise ratio :

Mono : More than 72dB
Stereo : More than 66dB (HE, HR)
Stereo : More than 64dB (EZ, K)
[at 98.0MHz]

Distortion :

Mono : Less than 1.2%
Stereo : Less than 2.0% [at 98.0MHz]

Auto stop level :

25dB \pm 10dB [at 98.0MHz]

Stereo separation :

More than 30dB (HE,HR) [at 98.0MHz]
More than 12dB (EZ,K) [at 98.0MHz]

Intermediate frequency : 10.7MHz

<MW SECTION>

Sensitivity :

Less than 60dB [at 603kHz]
Less than 58dB [at 999kHz]
Less than 58dB [at 1404kHz]

Signal to noise ratio :

More than 36dB [at 999kHz]

Distortion :

Less than 1.5% [at 999kHz]

Auto stop level :

52dB +10/-15dB [at 999kHz]

Intermediate frequency : 450kHz

<LW SECTION> (EZ,K)

Sensitivity : Less than 70dB [at 144kHz]
Less than 68dB at 198kHz]
Less than 66dB [at 290kHz]

Intermediate frequency : 450kHz

<SW SECTION> (HE,HR)

Sensitivity : Less than 42dB [at 5.9MHz]
Less than 38dB [at 12.0 MHz]
Less than 38dB [at 17.9MHz]

Intermediate frequency : 450kHz

<DECK SECTION>

Tape speed :

3000Hz \pm 45Hz

Wow & flutter :

Less than 0.15% (W.R.M.S)

Take-up torque :

30 ~ 55g-cm (FWD, REV)

F.F & REW torque :

75 ~ 160g-cm

Back tension :

2 ~ 7g-cm (FWD, REV)

PB output level :

300mV \pm 1dB (SP OUT 2V)

REC/PB output level :

-3dB \pm 1dB(NORM), -3.5dB \pm 1dB (CrO2)
(SP OUT 2V)

Distortion (REC/PB) :

Less than 2.0% (NORM, CrO2)

Noise level (PB) :

Less than 2.0mV (NORM, SP OUT 2V)

Noise level (REC/PB) :

Less than 3.0mV (NORM, SP OUT 2V)

Erasing ratio :

More than 60dB (at 125Hz, +10VU)

Test tape :

TTA-602 (NORMAL)

TTA-615 (CrO2)